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ABSTRACT

A meeting of education finance scholars discussed finance issues relevant to rural schools and communities. This paper summarizes major themes that emerged during the meeting. Notions of efficiency and economies of scale have contributed to widespread consolidation of rural schools and school districts. The value of community is not easily measured and has often been excluded from consolidation decisions. In addition, actual savings from consolidation are often smaller than predicted. Other themes included teacher salaries and other difficulties in recruiting rural teachers; negative impacts of No Child Left Behind, vouchers, and charter schools on rural school finance; impacts of poverty and lack of services in isolated areas; inability of rural districts to absorb special education costs; handling of sparsity factors, transportation costs, and declining enrollments in state aid formulas; cost of living adjustments; obsolete and dilapidated rural facilities; expansion of technology use in rural schools; and the continuing brain drain from rural areas. No Child Left Behind insists that all children learn to the same level without addressing rural inequalities in out-of-school conditions that affect opportunity to learn. Such inequalities could become categorical weights in state funding formulas, but such formulas generally are politically driven and inadequate to rural needs. Equity is inseparable from adequacy. Professional judgement approaches that separate remote and rural districts into their own unique "market basket" hold the best promise for determining adequacy. (SV)

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Equity and Adequacy Challenges in Rural Schools and Communities

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This paper was prepared as a result of a meeting of education finance scholars and *Rural School and Community Trust* personnel held in Manchester, NH, October 2-4, 2002. The Trust sponsored the session for the purpose of expanding the knowledge and awareness of rural school and community education finance issues. The statements, discussions and outcomes of the conference should not be considered as policy positions of the *Rural School and Community Trust* nor of the opinions or perspectives of the participants or their affiliated organizations.

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I. Introduction

The Problem - About one-third of the nation's children go to school in towns of less than 25,000 and one in six reside in towns of less than 2500. Yet, holding political majorities in only five states, rural constituents receive little statehouse attention regarding educational financial equity or adequacy issues. While 80% of the nation's landmass is rural, well-paying jobs and talented youth migrate to the cities and the suburbs.

The result is that 244 of the 250 poorest counties in America are rural. While urban poverty captures the eye, hidden and dispersed rural poverty burdens a greater percentage of rural children (20%) than urban children (16%). Adding to the difficulties, geography, distance, transportation and social programs are lacking for many rural families and communities. [1]

Rural schools are small by choice and by necessity. Rural citizens object to the imposition of consolidation because of the loss of community, culture and parent involvement in the schools. Rural parents intuitively know what a growing body of research demonstrates; that academic achievement and positive social adjustment thrive in rural areas but not in distant regional schools.

On average, rural schools spend $2000 less per pupil than students in metropolitan areas. At the same time that many adequacy studies are finding that rural schools need larger amounts of money, the over-reliance on a declining property tax base results in a lack of tax capacity for adequate schools.[2]

There are notable recent court successes for rural schools in Tennessee and Arkansas. Likewise, adequacy studies such as the recent Augenblick and Myers study in Nebraska, and the MAP Associates study in Wyoming recognize unique rural costs and differences in costs of living. Nevertheless, rural finance concerns have generally been in the shadow of major urban court cases and are of little help to rural needs.[3]

The Conference - The problem is not just political. Rural citizens have not had the advantage of the bright light of scientific inquiry focused on their unique adequacy and equity issues. Consequently, on October 2-4, 2002 the *Rural School and Community Trust* drew together finance scholars from around the nation in Manchester NH to pool their knowledge and expertise. The participants were selected to represent diverse perspectives on vertical equity and adequacy. Likewise, the Trust was interested in thinking beyond schoolhouse walls and dealing with social capital issues. Furthermore, the Trust sought people with knowledge of court cases, state laws and litigation.

The finance group consisted of:

John Myers,
Lawrence Picus,
Andrew Reschovsky,
Richard Rothstein and
Richard Salmon.

From the Rural School and Community Trust, Rachel Tompkins, Marty Strange and Nancy Gottovi attended. Gregory Malhoit represented the Rural Trust and the Rural Education Finance Center. William Mathis served as coordinator and organizer of the event. In order to have free-flowing and open conversation, it was agreed that these general findings would not ascribe comments to a particular person or their organizations.

Overview – Before addressing the adequacy of rural school funding, the group reviewed existing funding mechanisms that address rural needs. Using their own work, the participants led discussions about the methods and results used in recent adequacy and vertical equity studies. Particular attention was paid to the professional judgement, high performing schools and statistical models of determining adequacy. Comprehensive school reform models were recognized but the lack of available work in this area prevented a more substantive review.

While the focus was clearly on adequacy, the participants repeatedly returned to equity, equity in place, and vertical equity. The concepts are highly inter-related and separating adequacy from equity was not seen as particularly realistic nor useful.

Cutting across this organizational current was the emergence and re-emergence of particular themes and issues in rural finance. Often, the group found that the current level of knowledge on many of these issues was not strong and that explorations beyond commonly accepted conventional wisdom were needed. The group also realized that learning was more than just schools. Thus, supporting programs to build social capital were seen as essential. At the end of the two days, the group identified promising directions.

II. Issues in Rural Finance

At times, the vial nature of particular rural issues captured the agenda. As they represented the issues that were essential to the models and analyses, they also had to be addressed.

A. Community, Consolidation and Size Issues

Community and Consolidation – For rural areas, community is a core value. In suburban and urban settings, traditional notions of community are often supplanted by interstates, commuting and anonymous municipal governments whose only distinctive mark is a road sign set between mini-malls. There is a small trend toward re-ruralization as electronic workplaces allow people to make life-style choices while not jeopardizing their careers. Escaping crime, commuting, congestion, pollution and anomie, they turn to rural communities.

A growing body of literature tells us that small schools and community schools have positive effects on educational achievement. Likewise, community based schools are a strong factor in ameliorating social problems such as

poverty and deficit home environments.[4] However, these notions have yet to receive mainstream attention in educational policy making circles.

Unfortunately, federal and state laws discourage the advantages of rural schools and community while encouraging consolidation.

The federal "No Child Left Behind" law focus narrowly on test scores as the purpose of education. Thus, notions of community and the broader purposes of education are *a priori* eliminated. Further, the test based Adequate Yearly Progress provisions are statistically unworkable for low enrollment rural schools.

Faced with statehouse budget problems, cost-effectiveness initiatives result in laws with incentives for consolidation. Often seen as the magic bullet that will reap huge savings through economies of scale, these approaches typically provide only marginal and temporary relief. Thus, the concept of community in local democratic societies is reduced to merely another "inefficiency."

Educational finance seldom tries to capture the value of community. It is not easily measured or quantified. The concept just doesn't fit into a regression formula very neatly. Finding useful proxy measures for community proves a difficult if not impossible task. Then, if imperfectly measured, this same imperfection keeps the variables from being significant contributors in formulas.

There is a considerable research base on "optimal" size schools that has been used to justify consolidation efforts.[5] Typically, this research results in a "U" curve with both very large and very small schools being considered inefficient. These analyses have strongly drawn upon statistical models that use low costs and high-test scores as the essential (if not only) criteria for successful schools.

The second most common rationale is that a greater breadth and depth of course offerings, supported by a broader local property tax base, can be achieved by consolidating high schools. However, these efficiency gains must be balanced against changes within the social atmosphere of schools and the changes to and within communities.

Yet, in the ferocious consolidation fights across the country, courts have seldom decided strictly on the basis of efficiency. Consolidation is not evaluated just by fiscal efficiency and test scores, "but rather (by) the school that best serves the norms, beliefs and standards of the rural community."[6] Thus, economic efficiency arguments have not always been the dominant force in the courts or legislatures.

Rural advocates contend that measures such as "cost per graduate," dropouts, successful social productivity and the like have seldom been a part of the thinking. If we view the purpose of schools as preparation for higher education, the work force and good citizenship, test scores are a poor and inadequate proxy for any of these outcomes. Nevertheless, political currents for consolidation continue to run strong in many states.

The point of conflict is where the softly measured values of community, affiliation and socialization collide with state budget makers and economic calculations of fiscal efficiency.

School Size – An increasing number of studies have shown the efficacy of small schools in improving the education of children. Most notable from a rural context are the Matthew studies conducted in several states.[7] Using regression techniques, Craig Howley found that small schools ameliorate the effects of poverty.[8] A compelling body of data indicates the social efficacy of small schools in urban as well as rural environments on attributes such as respect, simplicity, safety, involvement and belonging.[9]

Nevertheless, particularly for very small schools, the conflict between econometric notions of efficiency and the positive social outcomes of small schools begs for further examination.

District Size – During the 1960s and 1970s consolidation wave, a number of studies called for district consolidation but the issue has received less attention in recent years. Nevertheless, numerous state incentive programs encourage district consolidation on the basis of relatively unclear data. The arguments favoring district consolidation rest on economies of scale while opposition arguments note the close availability of vital curricular and reform support, and greater direct assistance to parents.

Recently, the size of the purported savings of district consolidation has been called into question. As demonstrated in Arkansas, district consolidation might save only 1.6% of total spending under an optimum scenario.[10] The reason is simple. Consolidating central functions does not eliminate them. Many tasks are simply moved to a distant location and performed by a person with a different title. Nationally, with a total of only about 5% of expenditures coming from central offices, potential savings are at best marginal. Natural cost variations between districts, the increasing cost of special education, health insurance and the costs of state and federal standards based reform efforts all overwhelm any potential savings.

Curriculum leadership, routine bookkeeping and special services support are labor intensive and little true savings would be realized in a centralized system. Nevertheless, some small economies may be seen in operations such as payroll. Overall, potential savings would likely be small.

B. Teacher Availability Factors

General - The recent Tennessee Supreme Court decision explicitly recognized that properly paying teachers in remote and rural areas is an essential equity requirement. In some circumstances, the cost of attracting and retaining qualified teachers cannot be sensibly calculated in supply-demand models. The costs simply go off the scale. Although the "No Child Left Behind" law demands qualified teachers, narrow licensing definitions and requirements coupled with the inability to attract qualified teachers is not resolved simply by passing a law. Rural districts typically have less tax capacity and lower pay schedules. Likewise, social and cultural amenities are often lacking. The problem is under-recognized in state and federal calculations.

In 1999, four states used some form of teacher supplements to attract or retain teachers.[11] However, Alaska, New York and Wyoming adequacy studies recognize the cost differentials in teacher and staff salaries and regional cost differences will likely receive further attention in the future. The issue is large and unresolved.

Teacher Supply and Demand – Specialty Fields – Attracting and retaining qualified specialty teachers (music, nurses, science, special education, etc.) in rural areas is even more problematic. As teacher licensing is subjected to various reforms by regional accreditation agencies, federal requirements and state departments of education; licensing becomes more fragmented, rigid and difficult. In turn, this constricts supply and the effects fall disproportionately on rural and remote schools who are already at a competitive disadvantage.

Rural and small schools also face further specialty problems. A mathematics teacher may also need to teach science. However, dual certification is proving more troublesome and expensive to the applicant. This phenomenon exacerbates the already difficult task of attracting and retaining teachers.

C. Standards Based Reform Issues –

No Child Left Behind – The federal No Child Left Behind act is particularly troublesome for rural and small schools. The difference between this year's tenth grade class scores and last year's tenth grade scores has been shown to be as high as 70% random noise.[12] Thus, regardless of "true" performance, rural schools are more likely to be classified as failing and ultimately lose twenty percent of their federal Title I money. Ironically, these are the schools that need the resources the most. Further, publicly labeling local schools in rural areas will simply exacerbate the flight from both the schools and communities. The economic instability of these schools will increase and likely force closures. While the reality of achieving "adequate yearly progress" is questionable for all schools, the negative impact on small schools in rural environments is magnified.

Vouchers and Charters – As noted above, the civic purposes of common and public education are strongly held in rural communities. If federal and state school choice or "supplemental" options go into effect, the simple economic incentive is to establish an even greater number of small schools and tutoring agents. Following economic efficiency thinking, a new plethora of physical plants harm the already questioned economies of scale. Likewise, staffing more plants with qualified teachers puts pressure on an already strained teacher supply system. At this hour, alternative service providers are not required to hire licensed teachers nor are they subject to program regulations or outcome requirements. This may save costs but the quality of these educational programs is called into question.

There is evidence that vouchers in rural areas draw students from smaller towns to larger towns, and from smaller schools to larger schools.[13] Parents, who work in the regional center, simply drop-off or pick-up their children on the way to

and from work. Thus, the economic viability of rural community schools is diminished. These schools often serve as the center of the community and as the local meetinghouse. Thus, in chain reaction, to lose the school is to lose the community. As Levin and others have demonstrated, the social and economic separation through vouchers fragments society and is harmful to a diverse community.[14]

D. Traditional Categorical Aid Concerns -

Poverty – Perhaps no area received greater direct and indirect discussion than poverty and impacted poverty in rural areas. There was general agreement that existing finance formula poverty weights, which average 17% across the nation, are well below actual needs. While there is some variation in recent adequacy studies, the mean additional cost is double, or 100% more, of the base amount needed for an adequate education.

In isolated regions, poverty is less visible but affects a greater proportion of the population. The availability of social programs is also problematic in outlying areas. Thus, in a standards based environment, vastly greater school and social investments in poverty programs is required.

Special Education – Particular rural challenges are simply the availability of properly trained special education staff and the lack of services for low incidence and costly interventions.

Autism, behavioral and emotional handicaps are areas where rural schools have less access to specially trained personnel or programs. There was a general consensus that the state should fully pick up the costs of low incidence/ high costs needs. It is simply beyond the fiscal capacity of small districts to absorb such costs.

Sparsity[1]– Sparsity factors exist in several state aid formulas. Usually, these are small categoricals and the relation to actual costs is not well established. Concepts such as "necessary sparsity" exist in some state laws. The explicit assumption is that consolidation would be desirable except it is not always practical. Certainly, isolated schools face challenges in attracting staff, access to social and community resources, and diseconomies of scale. However, sparsity factors appear to be arbitrary and politically determined rather than based on need-based rationales. Statistical approaches and cost of living indices may hold promise for making this area more rational.

Transportation – Sparsity and consolidation have significant effects on transportation costs. However, these costs are generally limited to the cost of running buses. They seldom deal with the social and educational implications. The personal cost of putting children on buses for long periods of time, the loss in

[1] The conferees had an animated discussion on whether it should be spelled "sparsity" or "sparcity." Both spellings are found in the literature. This debate seemed particularly symbolic of the level of research consensus in this area.

co-curricular participation, and social effects have not been closely considered. Such analyses need to become essential parts of consolidation studies.

Declining Enrollments – As rrural school-age population generally declines and states are squeezed by revenuee shortfalls, even greater pressures for consolidation emerge. The operationnal costs of a building designed for 600 students but housing 300 becomes iincreasingly problematic. Staffing and administrative cost decreases lag bcehind the decline in enrollments. New state requirements for specialty staff (nurses, librarians, technology, etc.) compound the difficulties of sensibly managing enrollment decline.

The most typical (but not universal) way of adjusting for declining enrollment is through a multi-year sttudent count which allows districts to step down (or, in growth areas, step up) iin an incremental and managed way. However, the group did not feel satiisfied with this solution.

E. Cost of Living Adjustments (COLAs) – COLAs have recently received attention in Alaska, Texas and New York statistical analyses.[15] New York showed large variations in regional costs witth strong underfunding in the cities. In Texas, with the lower performance standarcds of the earlier TAAS examination, rural schools were not underfunded undeer these conditions. However, the underlying circularity is that rural schools typicaally have a lower cost of living and lower pay scales. However, this exacerbates tthe problem of attracting and retaining high quality teachers.

At the same time, there was a general consensus among the participants that very small and rural schools coost more to operate. In Augenblick and Myers Nebraska study, for example, remotte rural K-12 schools needed $11,257 per student while large K-12 districts required only $5845 per student.[16] As contrasted with the statistical naturee of the New York and Texas studies, the Nebraska work used a professionall development model for determining COLAs – and had decidedly different results.

Nevertheless, COLAs hold cconsiderable promise for examining and adjusting for the different costs of education in different locations. Further work on the different methods and resultss is well worthwhile.

F. Facilities – There was gemeral agreement that adequate facilities are a huge issue in rural areas. Many buiildings are old and dilapidated while federal, state and local commitments are not sufficient to address the needs. Unfortunately, there is very little high quality or comprehensive data on the condition of facilities. Each state usses a different approach and the accuracy and completeness of state data varies ffrom poor to worse. Few, if any, states have complete, current and reliable data. Many states use self-reports and the application of consistent standards is problematic. The difficulty is easily illustrated by the inherent problem of objectively determining the adequacy of a poorly maintained 1980s building as compared to a well-maintained 1910 building. Facilities issues have not easily lent themselves to solid analysis.

Anecdotally, more affluent communities can and do place a greater emphasis on and have a greater capacity to build and maintain adequate facilities. In court cases, photographs, videos and visits to school facilities have made for powerful and compelling testimony. Yet, an empirical overview of these concerns still lies beyond our reach.

G. Technology – Most rural schools have internet access yet computer instruction varies greatly in number of platforms, age, capability, access, and quality of instruction. In 2002, 72% of rural teachers used computers in their classroom.[17] Yet it is hard to know what this fact means in terms of quality of instruction. High-speed connections are limited in rural areas as is the fiscal ability to purchase hardware and software.

There have been expansive promises for distance learning in rural areas. Exceptionally well trained teachers, increased efficiency and the ability to provide advanced and low enrollment courses through distance learning are the most frequently voiced claims. Yet, beyond expensive and high profile demonstrations, it is too soon to tell if we will realize these gains.

Internet instruction is also emerging but quality control, content bias, and systemic instructional programs remain as open questions. In other gains, school business office operations have almost universally improved.

Nevertheless, there was general agreement that technology commitments must be continued and that harbingers of a technology divide be heeded and avoided.

H. Brain Drain – Across the nation, there is an exodus from rural areas. The small re-ruralization phenomenon, with pockets of gentrification in popular tourist locations, has not offset the losses in agricultural, dairy, mining, forest and other rural occupations.

The twentieth century has seen a continuous movement of the best and brightest of rural children away from their roots. They don't come back as often as they leave. The result is that the remaining young rural citizens do not have as high a level of education nor as high a level of income. Thus, it is also an economic out-migration. The remaining population is less likely to support education. They have less financial capacity to support education, even if they have the will. The result is a refined distillation of poverty and low-end jobs which, in turn, results in greater social inequities.

Part of the solution lies in rural economic development, increased state aid shares, less reliance on local property taxes and more progressive systems of tax collection and distribution.

III. Environmental and Social Conditions: Can Schools Overcome the Effects of Poverty and a Lack of Social Capital?

A fundamental flaw in contemporary standards based ideology, such as

No Child Left Behind, is that all children can learn to the same level within existing resources and within the traditional ways in which school monies are distributed. Schools may be able to control 25% of the variance in learning but a serious effort to make sure that all children learn to reasonable common achievement levels requires an outside-the-school definition of opportunity to learn.

Medical care, pre-school, after school, dental programs, adequate nutrition, parent education programs, day-care and the like are all essential if all children are to learn. Even then, assuming that all children can and will learn to the same very high levels on the same cognitive tests is an unrealistic assumption for schools or for finance models.[18]

With the exception of early adequacy work such as that done by the Institute for Wisconsin's Future, few adequacy studies have addressed the need for companion social efforts, particularly for rural schools.[19] At the same time, few, if any, nations place as many unrealistic demands on schools for narrowing social gaps. Ironically, the United States has among the highest levels of inequality in the way that school resources are distributed.[20]

For funding formulas, this argues that health care, dental care, parental lack of education, and child-care should all become categorical weights or, at the least, adequately supported through other mechanisms.

IV. Current Methods of Addressing Rural Needs in State Funding Formulas

Drawing upon Sielke and Holmes work, the traditional way of addressing rurality in funding systems has been in categorical weights. In theory, such weights offset or compensate for special needs and for formulas heavily reliant upon property as the measure of community wealth. Sparsity, isolated schools, teacher supplements, low enrollments, cost of living differentials, large or small district size, enrollment growth or decline, and multiple year student counts have been the most frequently used rural related multipliers in state aid formulas.[21]

The size and number of these categorical weights has rarely been determined on a sound empirical basis. Rather, they are the product of state political compromises, with an eye on what other states were doing. Recent adequacy research suggests that these coefficients are far below the actual financial needs of rural (as well as non-rural) schools when attempting to address impacted poverty and a lack of social capital.[22] Poverty weights nationally average around 17% additional money. This is well below recent research that shows the true needed costs as closer to 100% if poor and at risk children are to reach mandated standards.

With some notable exceptions such as Maryland which is committed to a multi-year phase-in, these adequacy studies have not found their way into state funding formulas. A weak economy and deficit state budgets will collide with the funding requirements of No Child Left Behind and standards based reform.

In discussing the various categorical programs, the conversation frequently returned to teacher supplements and COLAs. In many rural areas, the essential requirement of attracting and keeping teachers in isolated areas was

particularly problematic. Statistical supply and demand projections hold promise for determining what it takes to attract and retain "highly qualified" teachers in remote and rural areas.

Likewise, categorical weights with basically on/off criteria were found to be clumsy funding mechanisms. Continuous scales better reflect reality but the swap-off is increased complexity and less transparency in state aid formulas.

V. Market Basket/ Professional Judgement Models and Rural Schools

Market basket models determine the types and quantity of resources needed to meet academic standards based on the professional judgement of qualified panels of experts. This approach is easy for policy makers to understand and can have significant face validity and political authority if the experts are broadly and representatively chosen.

Of course, the set of underlying assumptions is critical. If the model does not properly emphasize rural schools (or any other set of concerns for that matter), the process is prone to erroneous conclusions. Class size, teacher pay, para-educator ratios, maintenance capability and other assumptions have an obvious and large impact on the cost estimates.

Professional judgement models typically give higher estimates than high performing schools models. The reason is that professional educator panels view the world through different lens. Both statistical models and high performing schools models focus singularly on test scores while professional judgment panels will intuitively use a broader definition of education and student needs.

In the limited rural applications, small schools have lower poverty weights. This is due to the environment and the greater natural ability of small, rural schools to help ameliorate poverty effects. Thus, any reduction in poverty weights for rural schools should be offset by adequate financial support for the added costs of operating a small or very small school.

In special education, the financial burden for high cost/ low incidence student needs must be higher in rural (and perhaps other) areas simply because the ability of a small enrollment district to absorb the cost is much less. Likewise, the ability to provide unique special services in remote locations is lessened. Thus, taking high cost children out of market basket models and funding them through separate mechanisms is a more accurate and responsive procedure.

Adjusting for rural concerns in professional judgement adequacy models can be done as a separate element of the market basket model or statistical adjustments can be made to the model. For example, Nebraska established small K-12 schools as a separate market basket category.[23] In Wyoming and Maryland, statistical cost of living adjustments were made.[24] The statistical approach certainly provides for ease in transformations. However, it assumes that conditions, environment, and circumstances in the prototype district linearly generalize to all rural districts or schools. It assumes the functions work the same way across all schools in the class. However, this is a difficult assumption to

defend. Using a separate rural prototype school appears a more accurate and sensitive way to use professional judgement models in rural districts.

VI. High Performing Schools Adequacy Models and Rural Schools

The fundamental premise is to identify currently high performing schools, eliminate outliers, and then look at what it costs to provide for scores at these high performing levels. The major shortcoming in applying this model to rural schools is that high performing schools typically come from suburban communities with well-educated parents and very different demographics. These schools typically have lower proportions of high need children. Further, identifying schools solely by test scores is a narrow perspective on the purpose of schools. Whether high performing schools are so different in kind as to make the model non-generalizable to other types of schools remains an open question.

The prototype model does not typically come up with categorical or special needs weights so a professional judgement component for rural needs has to be grafted onto the base cost. Alternately, a statistical model can be used to estimate costs for unique needs. Even with these generalizability concerns, these models tell us that special needs costs are significantly underestimated in existing formulas.

In theory, a set of high-performing rural schools could be identified and the costs established much as in the Nebraska professional judgement application. There are certainly high performing rural schools but the unique demographics, limited numbers and socioeconomic levels would have to be carefully examined to see if the application is transferable to all rural schools within the given state. The linear extrapolations of a statistical model are unlikely to fit particularly well. Thus, in applying a high performing schools model to rural schools, the determination of added weights through adding a professional judgement component may prove the better adaptation.

VII. Statistical Models in a Rural Context

Basically, statistical models run cost functions to determine how much money it takes to achieve a certain average test score under certain school and demographic circumstances. As these circumstances change from one community to another, the formula adapts the costs accordingly. The target criteria could be something other than test scores but that is generally what is available and, thus, is what is used. By definition, this limits the purpose of education.

For state aid purposes, statistical models demonstrate that different districts need different amounts of money under different sets of circumstances. This makes good sense to statisticians but is less acceptable or comprehensible to state legislators. Duncombe and Lukemeyer found differential costs depending upon location within the state of New York.[25] Having this translated into a funding formula, however, poses significant political difficulties. Guthrie, et al., used

statistical models for similar projections in Wyoming while Reschovsky and Imazeki conducted analyses in Texas.[26]

The technique has enormous power as it can entertain a vast array of variables and deal with complex interactions. Among the problems is that actual costs vary considerably. Politicians, seeking narrower bands and simpler solutions, do not readily accept these cost differences. Mobility of students also becomes problematic.

For school size, there is a "U" distribution that statistically demonstrates that both small schools and large schools cost more than "optimal" size schools. This leads policymakers to push for consolidation of the very small schools in order to save money. Again, the problem is that a reliance on test scores as an outcome measure does not address cost per graduate, positive social outcomes, lowered dropouts and other elements vital to defining a well-educated citizen.

Within these constraints, statistical models show unique power for calculating the added costs of dealing with poverty, bilingual populations and other special populations. Analyses using variables of importance to rural areas can be developed to include sparsity, transportation, administrative costs, cost per graduate, etc. While differences in locations may challenge the statistical assumptions, such analyses cast light on rural issues and concerns that can not be easily addressed by other methods.

VIII. Conclusions

While the group's discussions were far ranging, a number of general themes were constant and resonated among the conferees.

Equity – Since 1989, the major emphasis of courts and scholars has been on adequacy. Yet, all the conferees agreed that equity is essential and cannot be neglected. Without equity, the notion of democratic participation for rural citizens (or for all citizens) cannot be achieved. This is a vital foundation statement and essential underpinning.

Furthermore, equity may prove to be the more promising or pragmatic legal or political strategy under some circumstances. Adequacy is also essential in that being equitably inadequate is not an acceptable solution.

Separating equity from adequacy is also unrealistic given the political flow of forces found in most statehouses. In doing adequacy analyses, all recent work assumes a much higher level for all students than what was found in traditional foundation work. This higher adequacy level becomes the rationale for leveling up school finance allocations.

Methods of Determining Adequacy –Professional judgement approaches that separate remote and rural districts into its own unique market basket holds the most significant promise. Pure and simply, the elements in the rural market basket are different in purpose, kind and degree. A separate market basket, such as used in Nebraska, appears the most accurate and responsive method.

Market basket approaches that have a limited number of prototypes can be expanded or adjusted using statistical procedures. This is not as good a method as a unique market basket simply because it is another level removed. The fewer major assumptions or levels of generalizability, the more accurate the model. Nevertheless, statistical projections have proven very valuable. For example, projections of cost of living adjustments and teacher supplement levels have already shown solid promise and utility.

High performing schools models hold lesser promise for rural schools. Due to demographics, high performing schools are more likely to be in suburban and highly educated communities. High performing rural schools exist but whether these are generalizable to rural environments is an open question.

Whole school reform models were not examined but, as we gain greater experience with the method, they may show promise in rural applications.

Categorical Weights – Regardless of the method used, recent adequacy work demonstrates that categorical weights for poverty, at-risk, and non English language learners are very much below what is needed if we are serious about all students performing up to standard. Poverty weights average an additional 17% but the needs are closer to 100%.

This has huge implications for rural as well as non-rural students and schools. Political coalitions focused on sufficient national and state funding are clearly indicated. A summary of recent standards based adequacy studies shows that states will need to increase overall education spending between 20% and 50% in order to meet standards.[27]

The Purpose of Schooling – The goal of adequacy models is to determine how much money it takes for all students to reach a certain performance level. For both ideological and practical reasons, this has reduced the purpose of education to cognitive test scores. This is not the entire purpose of education and this is particularly true for rural schools where notions of community, civic virtue, community values and effective participation are strongly held values.

Politically, it is necessary to push the envelope to include broader definitions of an educated citizenry. Analytically, outcome measures such as cost per student, graduation rates, portfolio mastery, and the like must become more prominent in measuring and costing schools.

Learning as Community – The corollary to the purpose of schooling leads to the definition of learning and schooling in a far different way. Some make compelling arguments that traditionally constructed schools dangerously over-promise if they presume to remedy all social needs through the positive effects of schools and improved pedagogy.[28]

Rural schools in particular must be expanded to include social centers, breakfast programs, after school programs, adult education, early education, recreation and similar broader purposes. These broad purposes currently exist but the reality is generally far less and more fragile than the publicity. Such

factors must be included in the cost definitions of education whether in state aid programs or in other budget areas.

School Consolidation -- School consolidation is driven by the economic principle of economies of scale. In fact, many analyses define "too small" schools and those that are "necessarily small." The political battles over consolidation that have raged across states are not just limited to rural schools -- although they have borne the brunt of consolidation efforts.

The challenge to rural educators is to demonstrate the communal and social benefits of small schools and local schools. This must be done both through empirical analysis and through political activities.

The Over-reliance on Local Property Taxes to Fund Schools -- Along with other groups, rural schools are disadvantaged by the over-reliance on local school property taxes. For rural schools, a declining population and the recession of agriculture as an economic force limits the value of property and the ability to raise adequate monies through local property taxes.

Politically, rural groups simply do not have sufficient political clout without forming coalitions with urban groups and others with similar interests. Moving to statewide property taxes and shifting to higher state and federal shares of education costs are essential directions. While sales taxes are generally regressive, realignment from property taxes toward other major revenue sources including income and sales is essential.

For all the shortcomings of standards based education, the movement has sparked a new interest in adequately providing for the education of all children. This has brought new visibility to rural issues as well as urban concerns. It is still too soon to see if the promises of state and federal laws will be backed with sufficient resources to make our dreams a reality.

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